EPA Region 5 Records Ctr.
257438

Weekly Summary Report
USEPA Oversight, Sauget Area 1, Sauget, IL
WA No. 239-RSBD-054V / Contract No. 68-W6-0025

Week Ending Friday, September 30, 2005

This report summarizes the Remedial Investigation/Feasibility Study (RI/FS) fieldwork conducted by Monsanto, Solutia, and their contractors from September 27, 2005 through September 30, 2005 at Sauget Area 1 (SA1) Sites. The current RI/FS work consists of a Supplemental Dense Non-aqueous Phase Liquid (DNAPL) Characterization and Remediation Study (Supplemental DNAPL Investigation). The original DNAPL Characterization and Remediation Study (DNAPL Investigation) was conducted in 2004. CH2M HILL provided field oversight on four days during the week.

Contractors Onsite

- Groundwater Services Inc. (GSI) (consultant/contractor to Monsanto/Solutia)
- Golder Associates (consultant for Monsanto/Solutia)
- Roberts Environmental Drilling Inc. (Roberts) (drilling subcontractor to GSI)

Work Performed This Week

GSI was onsite during the week conducting the DNAPL and light non-aqueous phase liquid (LNAPL) survey of nine wells at SA1. A NAPL recovery test was performed at 3 wells where NAPL was observed.

NAPL Survey

On September 27 through 30, 2005, GSI conducted a NAPL survey at the following piezometers that were installed during the 2004 DNAPL Investigation: A1-02, A1-04, A1-05, A1-13, A1-14 and A1-16. In addition, the SA1 bedrock wells BR-I at Site I, BR-G at Site G and well EE-11 at Site G, were also surveyed.

The DNAPL and LNAPL survey consisted of the following measurements:

- A PID measured for the presence of organic vapors as the well cap was removed
- An oil-water interface probe was used to measure the depth to water, NAPL thickness, and total depth of well
- A Teflon bailer was lowered into the top of water present in the well, and the bailer was visually observed for presence of sheen or LNAPL
- A weighted cotton string was dropped to the base of each well, then observed for potential presence of staining on the string
- A Teflon bailer was lowered to the total depth of the well, and the bailer was visually observed for presence of sheen or DNAPL

At three of the wells, BR-I, BR-G and EE-11, an indication of NAPL was observed. No elevated PID measurements, staining, or visible sheen was observed in other wells surveyed during the week.

Using the cotton weighted string, staining was evident at three wells (BR-G, BR-I, and EE-11). Table 1 provides the approximate thickness of NAPL staining.

NAPL was observed in and on the outside of the Teflon bailer at three wells (BR-G, BR-I, and EE-11). Observations are presented in Table 1. Well EE-11 appeared to have an oily substance present at the liquid surface but no defined layer was evident. Recovery tests were performed on three wells, as described below.

During the NAPL survey and well cleaning/swabbing activities, the breathing zone was monitored using a calibrated PID. Tyvek® chemical retardant suits were worn during recovery activities at wells BR-G, BR-I and EE-11.

NAPL Recovery Tests

Because BR-I and BR-G were observed to contain DNAPL, a recovery test was conducted on these wells. Approximately 100 gallons of water were removed from well BR-I and BR-G and placed into two 55 gallon drums, staged next to the well, to allow the NAPL to partition from the water within the drums. GSI used a gasoline powered actuator to pump the water from both wells. Testing on recovered DNAPL for physical properties and collection of samples for lab analyses, if sufficient volume is present in the drums, will begin during the upcoming weeks at well BR-G at Site G and DNAPL-K-4 on the Solutia Krummrich Facility. A NAPL sample was not collected from BR-I during the reporting period because a sample had been previously collected from this location during the 2004 DNAPL Investigation.

Because EE-11 was observed to contain LNAPL, a recovery test was conducted on this well. GSI used an electric powered peristaltic pump to remove water and NAPL from the well. Approximately 1.5 gallons of water were removed from well EE-11 and placed into a 5 gallon bucket. Globules of apparent NAPL were observed in the water but no defined layer was evident. An insufficient amount of NAPL was recovered to perform recovery tests. All recovered fluids were placed back into well.

BR-I Well Cleaning / Swabbing Activities

Cleaning and swabbing activities were performed on bedrock well BR-I located at Site I. The purpose of the cleaning was to remove smeared NAPL from the well in order to be able to view the integrity of the well in an upcoming downhole camera survey.

Roberts Environmental Drilling conducted the well cleaning/swabbing activities using a CME 75 drilling rig. Brushes were placed on the wire line and lowered into and out of the well to scrub the sides. Pressurized hot water was sprayed into the top of the well casing periodically to clean NAPL from the sides. Following the well swabbing, air-lift techniques were employed to recover liquid from the well, with approximately two well volumes of water (150 gallons) mixed with NAPL recovered and placed into 55 gallon drums staged next to well. At the conclusion of well cleaning activities, purged groundwater was observed to contain black oily globules suspended in water and the interior of the well casing (near ground surface) appeared stained.

Work Anticipated Next Week

Field activities anticipated in the upcoming week include a downhole video camera survey, caliper log, and temperature log at BR-I. The installation of the one additional piezometer, adjacent to BR-I, is scheduled to occur during the week of October 10.

TABLE 1
DNAPL Survey of Existing Wells, Oversight of Field Measurements through the Week Ending September 30, 2005

Area	Well ID	Site	Date Surveyed	NAPL Observations	Comments
SA1	A1-01	Site H	9/20/2005	None observed	
	A1-02	Site H	9/27/2005	None observed	
	A1-03	Site H	9/20/2005	None observed	
	A1-04	Site L	9/27/2005	None observed	
	A1-05	Btwn Sites[1]	9/27/2005	None observed	
	A1-06	Site I	9/20/2005	None observed	
	A1-07	Site I	9/20/2005	None observed	
	A1-08	Site I	9/20/2005	None observed	
	A1-09	Dwngr Site I	9/20/2005	None observed	
	A1-10	Site I	9/20/2005	None observed	
	A1-11	Site I	9/20/2005	None observed	
	A1-12	Dwngr Site I	9/20/2005	None observed	
	A1-13	Site G	9/28/2005	None observed	
	A1-14	Site G	9/28/2005	None observed	
	A1-15	Site G	9/20/2005	None observed	
	A1-16	Site G	9/28/2005	None observed	
	A1-17[2]	Dwngr Site G	9/20/2005	None observed	
	A1-18	Dwngr Site G	9/20/2005	None observed	
	EE-11		9/28/2005	Potential LNAPL and DNAPL observed.	A black, oily substance was observed on bottom 1" of interface probe dropped to the top of liquid in well. A black, oily substance was observed on bottom 8.2" of tape dropped to total depth in well. A black, oily substance was observed on bottom 3" of bailer from top of water column Black staining was observed on bottom ~8' of string. Bailer observed to be coated (on outside of the 3' bailer) with a black, oily substance when dropped to total depth in well, with black suspended globules in water inside bailer.

TABLE 1
DNAPL Survey of Existing Wells, Oversight of Field Measurements through the Week Ending September 30, 2005

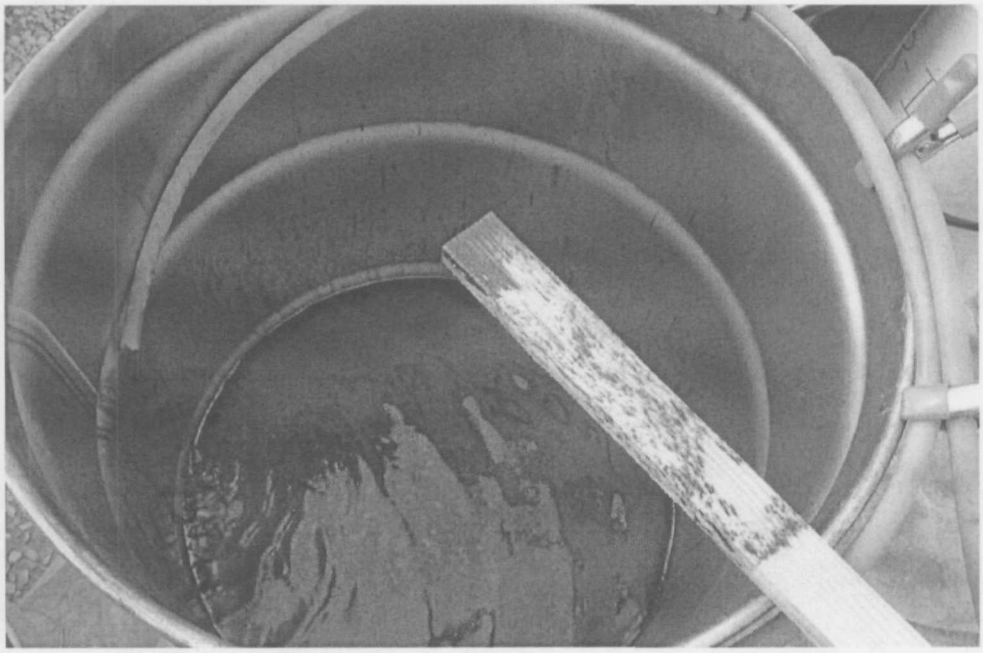
Area	Well ID	Site	Date Surveyed	NAPL Observations	Comments
	BR-G	Site G		Potential DNAPL observed.	A black, oily substance was observed on bottom 3.5' of probe and tape at BR-G when dropped to total depth. Sheen noted on bailer after dropped to the top of water column. A black, oily substance was observed on bottom 3.5' of weighted string dropped to total depth of well. A black, oily substance was observed on outside bottom 3' 3" of bailer from bottom of well, with globules of oily residue visible inside bailer suspended in water.
	BR-H	Site H	9/20/2005	None observed	
	BR-I	Site I	9/27/2005	Potential DNAPL observed.	A trace black, oily substance on interface probe and ~ bottom 9' of tape. A black, oily substance was observed on bailer from top of water. A black, oily substance was observed on bottom 10.75' of string (dropped to total depth) and intermittent staining observed on all of string that entered well. Entire bailer observed to be coated with a black, oily substance when dropped to total depth in well. Globules of a black, oily substance were observed in water contained in bailer.
Krummrich Facility	GM-33		9/21/2005	None observed	
	GM-46		9/21/2005	Slight sheen	Slight sheen on outside of bailer and on the top of water was observed.
	DNAPL-K-4		9/21/2005	NAPL observed	Black, oily substance was observed in bottom 1/4in of bailer. Slight streaking on sides of bailer when dropped to total depth in well. A slight sheen was observed in water contained in bailer.

Notes:
Dwngr – indicates well location is downgradient of the waste/fill area for each Site
[1] Boring is located between Sites G, H, and L, east of Dead Creek
[2] Shallow piezometer located near existing well EE-11, where LNAPL was observed.

Photos from September 27 through September 30, 2005:

Water from top of liquid in well BR-I at Site I, SA1 (September 27, 2005)

Bailer dropped to total depth in BR-I at Site I, SA1 (September 27, 2005)

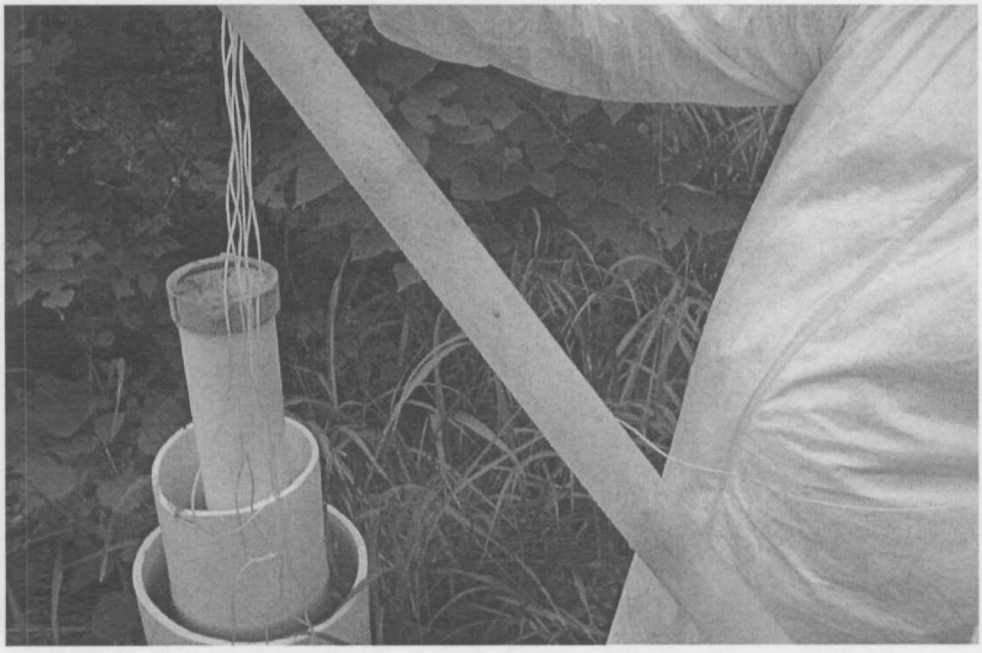


Water and NAPL recovered from well BR-I at Site I, SA1 (September 27, 2005)

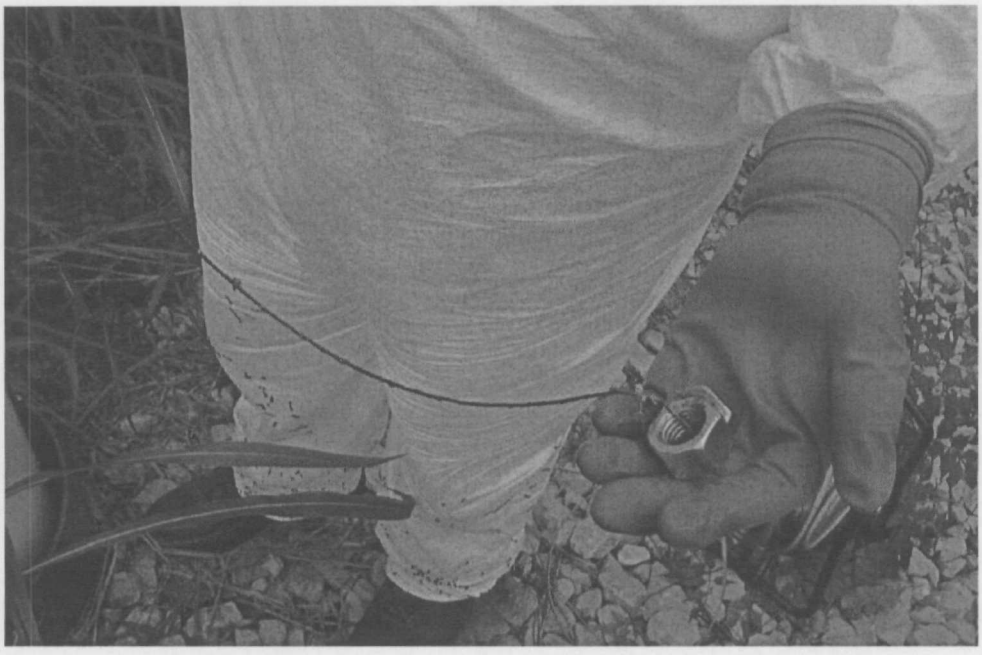
Water and NAPL in bailer from top of liquid in EE-11 at Site G, SA1 (September 28, 2005)

Staining on weighted string at well EE-11 Site G, SA1
(September 28, 2005)

Water and NAPL observed on bailer dropped to total depth in EE-11 at Site G, SA1
(September 28, 2005)

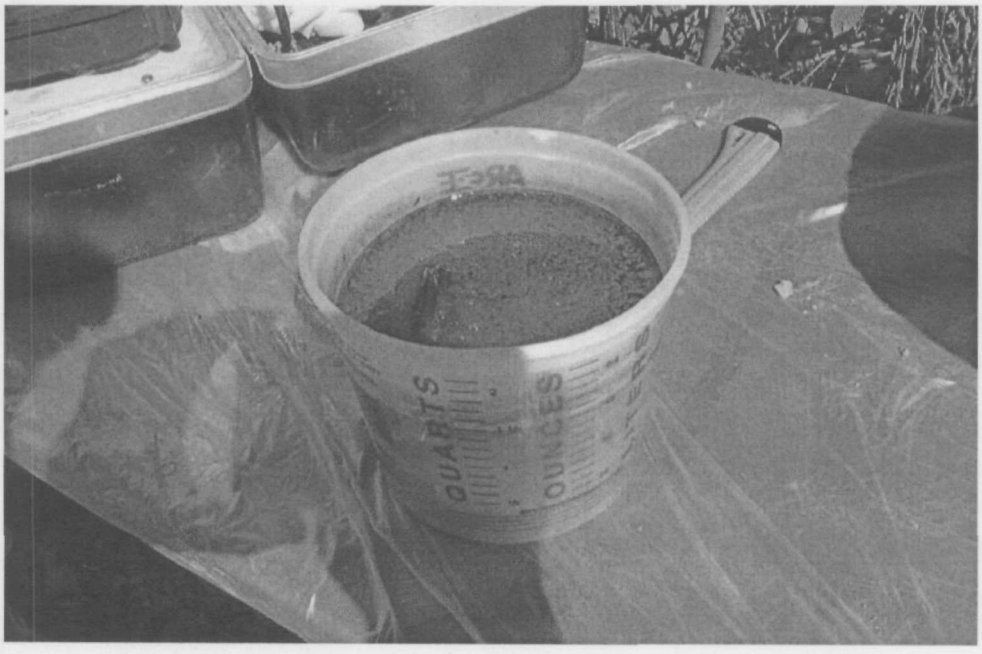


Water and trace NAPL in bailer from top of liquid in BR-G Site G, SA1 (September 28, 2005)



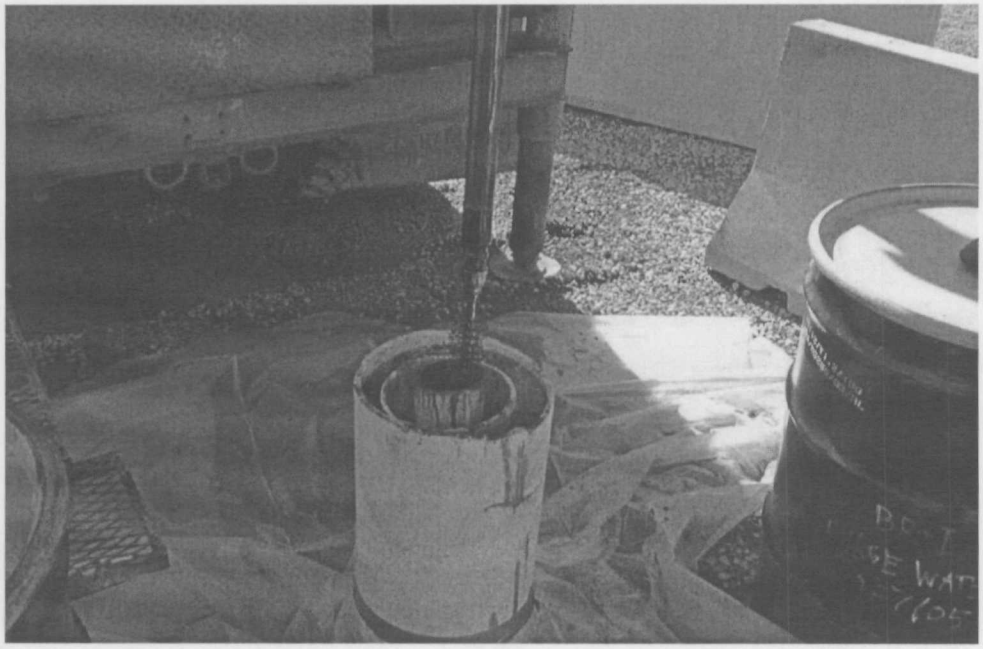
Staining on weighted string at well BR-G Site G, SA1
(September 28, 2005)

Water and DNAPL observed in bailer dropped to total depth of well BR-G Site G, SA1
(September 28, 2005)



Water and NAPL observed in liquid recovered from well EE-11 at Site G, SA1
(September 29, 2005)

NAPL observed on tubing removed from bottom of well BR-G at Site G, SA1
(September 29, 2005)



Well scrubbing being conducted on well BR-I at Site I, SA1 (September 30, 2005)

NAPL mixed with groundwater was recovered from well BR-I during purging, Site I, SA1 (September 30, 2005)